DMJM H&N | AECOM

NASA N232 - ARC Facility
NASA Ames, Moffat Field
LEED-NC Monthly Report - Overview

REPORT DATE	5/26/2009
PROJECT PHASE	CDs

Y	?	N		Project Totals (Pre-certification Estimate)	Certification Target	Current:
54	7	8				PLATINUM

Y	?	N	# Documented	Sustainable Sites
12	1	1		
				SSp1 **Construction Activity Pollution Prevention**
1	0	0		SSc1 **Site Selection**
0	0	1		SSc2 **Development Density & Community Connectivity**
0	1	0		SSc3 **Brownfield Redevelopment**
1	0	0		SSc4.1 **Alternative Transportation** Public Transportation Access
1	0	0		SSc4.2 **Alternative Transportation** Bicycle Storage & Changing Rooms
1	0	0		SSc4.3 **Alternative Transportation** Low-Emitting & Fuel-Efficient Vehicles
1	0	0		SSc4.4 **Alternative Transportation** Parking Capacity
1	0	0		SSc5.1 **Site Development** Protect or Restore Habitat
1	0	0		SSc5.2 **Site Development** Maximize Open Space
1	0	0		SSc6.1 **Stormwater Design** Quantity Control
1	0	0		SSc6.2 **Stormwater Design** Quality Control
1	0	0		SSc7.1 **Heat Island Effect** Non-Roof
1	0	0		SSc7.2 **Heat Island Effect** Roof
1	0	0		SSc8 **Light Pollution Reduction**
4	0	1		**Water Efficiency**
1	0	0		WE1.1 **Water Efficient Landscaping** Reduce by 50%
1	0	0		WE1.2 **Water Efficient Landscaping** No Potable Use or No Irrigation
0	0	1		WE2 **Innovative Wastewater Technologies**
1	0	0		WE3.1 **Water Use Reduction**, 20% Reduction
1	0	0		WE3.2 **Water Use Reduction** 30% Reduction
13	4	0		**Energy and Atmosphere**
				EAp1 **Fundamental Commissioning**
				EAp2 **Minimum Energy Performance**
				EAp3 **Fundamental Refrigerant Management**
8	2	0		EAc1 **Optimize Energy Performance**
1	2	0		EAc2 **On-Site Renewable Energy**
1	0	0		EAc3 **Enhanced Commissioning**
1	0	0		EAc4 **Enhanced Refrigerant Management**
1	0	0		EAc5 **Measurement & Verification**
1	0	0		EAC6 **Green Power**

Y	?	N	# Documented	Materials and Resources
5	2	6		
				MRp1 **Storage & Collection of Recyclables**
0	0	1		MRc1.1 **Building Reuse** Maintain 75% of Existing Walls, Floors & Roof
0	0	1		MRc1.2 **Building Reuse** Maintain 95% of Existing Walls, Floors & Roof
0	0	1		MRc1.3 **Building Reuse** Maintain 50% of Interior Non-Structural Elements
1	0	0		MRc2.1 **Construction Waste Management** Divert 50% from Disposal
1	0	0		MRc2.2 **Construction Waste Management** Divert 75% from Disposal
0	0	1		MRc3.1 **Materials Reuse** 5%
0	0	1		MRc3.2 **Materials Reuse** 10%
1	0	0		MRc4.1 **Recycled Content** 10%
0	1	0		MRc4.2 **Recycled Content** 20%
1	0	0		MRc5.1 **Regional Materials** 10%
0	1	0		MRc5.2 **Regional Materials** 20%
0	0	1		MRc6 **Rapidly Renewable Materials**
1	0	0		MRc7 **Certified Wood**
15	0	0		**Indoor Environmental Quality**
				EQp1 **Minimum IAQ Performance**
				EQp2 **Environmental Tobacco Smoke** (ETS) **Control**
1	0	0		EQc1 **Outdoor Air Delivery Monitoring**
1	0	0		EQc2 **Increased Ventilation**
1	0	0		EQc3.1 **Construction IAQ Management Plan** During Construction
1	0	0		EQc3.2 **Construction IAQ Management Plan** Before Occupancy
1	0	0		EQc4.1 **Low-Emitting Materials** Adhesives & Sealants
1	0	0		EQc4.2 **Low-Emitting Materials** Paints & Coatings
1	0	0		EQc4.3 **Low-Emitting Materials** Carpet Systems
1	0	0		EQc4.4 **Low-Emitting Materials** Composite Wood & Agrifiber Products
1	0	0		EQc5 **Indoor Chemical & Pollutant Source Control**
1	0	0		EQc6.1 **Controllability of Systems** Lighting
1	0	0		EQc6.2 **Controllability of Systems**, Thermal Comfort
1	0	0		EQc7.1 **Thermal Comfort**, Design
1	0	0		EQc7.2 **Thermal Comfort**, Verification
1	0	0		EQc8.1 **Daylight & Views**, Daylight 75% of Spaces
1	0	0		EQc8.2 **Daylight & Views**, Views for 90% of Spaces
5	0	0		**Innovation & Design Process**
1	0	0		IDc1.1 **Innovation in Design: WEc3 Exemplary Performance**
1	0	0		IDc1.2 **Innovation in Design: SSc5.2 Exemplary Performance**
1	0	0		IDc1.3 **Innovation in Design: Sustainable Education Program**
1	0	0		IDc1.4 **Innovation in Design: Green Cleaning Program**
1	0	0		IDc2 **LEED® Accredited Professional** A MAcGregor

NASA N232 - ARC Facility
NASA Ames, Moffat Field
LEED-NC Monthly Report - Detailed

REPORT DATE	5/26/2009
PROJECT PHASE	CDs

Prepared By:	Date	Checked By:	Date
A MacGregor	5/26/2009		

Credit Reference Legend

- Not Targetted
- Targetted but currently not documented - evidence required
- Partially documented - more evidence required to complete
- Fully Documented

Credit Likelihood Legend

- Unlikely
- Possible
- Likely

										DESIGN PHASE		CONSTRUCTION PHASE	
Credit Reference		Likelihood of Credit	Available Credits	Target Credits	Solid Credits	Reach Credits	Documentated Credits	"Anticipated" Credits	LEED Submittal	Design Phase Action	Phase Leader	Construction Phase Action	Phase Leader
Sustainable Sites													
SSp1	Construction Activity Pollution Prevention		Req				0	0	C	Incorporate requirements for C.A.P.P into design package	Civil Engineer	Impliment a Construction Activity Pollution Prevention Plan	Contractor
SSc1	Site Selection		1	1	1	0	0	0	D	Site complies. Complete template accordingly	Civil Engineer	N/A	No Construction Action
SSc2	Development Density & Community Connectivity		1	0	0	0	0	0	D	Not Achievable - Not Applicable to Site	No Design Action	Not Achievable - Not Applicable to Site	No Construction Action
SSc3	Brownfield Redevelopment		1	1	0	1	0	0	D	Client investigating potential Campus Credit compliance	Client	Not Achievable - Not Applicable to Site	No Construction Action
SSc4.1	Alternative Transportation - Public Transportation Access		1	1	1	0	0	0	D	Campus shuttle connects building to existing mass transit	LEED consultant	N/A	No Construction Action
SSc4.2	Alternative Transportation - Bike Storage and Changing		1	1	1	0	0	0	D	Showers incorporated. Provide 10 Bike racks	Architect	Photograph installed bike racks	No Construction Action
SSc4.3	Alternative Transportation - Low-Emitting Vehicles		1	1	1	0	0	0	D	Low Em Vehicles Striping still to be shown for 5% of parking capacity	Civil Engineer	Photograph installed LEV parking signage	Client
SSc4.4	Alternative Transportation - Parking Capacity		1	1	1	0	0	0	D	Carpool Striping still to be shown for 5% of parking capacity	Civil Engineer	Photograph installed Carpool parking signage	Client
SSc5.1	Site Development - Protect or Restore Habitat		1	1	1	0	0	0	C	Previously graded site - incorporate natural habitat over 75% of site	Landscaping Consultant	Photograph native habitate spaces	Client
SSc5.2	Site Development - Maximize Open Space		1	1	1	0	0	0	D	No zong requirement - Provide open space = twice building footprint	Landscaping Consultant	N/A	No Construction Action
SSc6.1	Stormwater Design - Quantity Control		1	1	1	0	0	0	D	Civil to document proposed strategy and submit for consideration	Civil Engineer	N/A	No Construction Action
SSc6.2	Stormwater Design - Quality Control		1	1	1	0	0	0	D	Proposed swales stategy captures 80%+ of TSS. Civil to document	Civil Engineer	N/A	No Construction Action
SSc7.1	Heat Island Effect - Non-Roof		1	1	1	0	0	0	D	Concrete pavers used for externior pathways within LEED boundary	Civil Engineer	N/A	No Construction Action
SSc7.2	Heat Island Effect - Roof		1	1	1	0	0	0	D	Utilize high SRI roof membrane across 100% of roof area	Architect	N/A	No Construction Action
SSc8	Light Pollution Reduction		1	1	1	0	0	0	D	Design site lighting to comply with reductions from ASHRAE criteria	Electrical Engineer	N/A	No Construction Action
	Section Total		**14**	**13**	**12**	**1**							
Water Efficiency													
WEc1.1	Water Efficient Landscaping - Reduction by 50%		1	1	1	0	0	0	D	Design Landscaping to require no potable water use.	Landscaping Consultant	N/A	No Construction Action
WEc1.2	Water Efficient Landscaping - Reduction by 100%		1	1	1	0	0	0	D	Design Landscaping to require no potable water use.	Landscaping Consultant	N/A	No Construction Action
WEc2	Innovative Waste Water Technologies		1	0	0	0	0	0	D	Not Achievable - Not Applicable to Site	No Design Action	N/A	No Construction Action
WEc3.1	Water Use Reduction - 20% reduction		1	1	1	0	0	0	D	Specify low flow fixtures throughout to exceed min of 40% below std.	Mechanical Engineer	N/A	No Construction Action
WEc3.2	Water Use Reduction - 30% reduction		1	1	1	0	0	0	D	Specify low flow fixtures throughout to exceed min of 40% below std.	Mechanical Engineer	N/A	No Construction Action
	Section Total		**5**	**4**	**4**	**0**							

Credit Reference Legend

- Not Targetted
- Targetted but currently not achieved - evidence required
- Partially achieved - more evidence required to complete
- Fully evidenced and awarded

Credit Likelihood Legend

- Unlikely
- Possible
- Likely

										DESIGN PHASE		CONSTRUCTION PHASE	
Energy and Atmosphere	**Credit Reference**	**Likelihood of Credit**	**Available Credits**	**Target Credits**	**Solid Credits**	**Reach Credits**	**Documentated Credits**	**Anticipated Credits**	**LEED Submittal**	**Design Phase Action**	**Phase Leader**	**Construction Phase Action**	**Phase Leader**
EAp1	Fundamental Commisisoning		Req				0	0	C	F&K to develop OPR, Cx plans and specs and review BOD	Commissioning Authority	Undertake Commissioning Process	Commissioning Authority
EAp2	Minimum Energy Performance		Req				0	0	D	Demonstrate design exceeds ASHRAE 90.1 by minimum of 30%	Mechanical Engineer	N/A	No Construction Action
EAp3	Fundamental Refrigerant Management		Req				0	0	D	Utilize compliant refrigerants	Mechanical Engineer	N/A	No Construction Action
EAc1	Optimized Energy Performance		10	10	8	2	0	0	D	Demonstrate design exceeds ASHRAE 90.1 by minimum of 30%	Mechanical Engineer	N/A	No Construction Action
EAc2	On-Site Renewable Energy		3	3	1	2	0	0	D	Integrated BIPV + solar hot water heating likely to achieve 1 pt	Electrical Engineer	N/A	No Construction Action
EAc3	Enhanced Commissioning		1	1	1	0	0	0	C	F&K undertook Cx review	PM	Undertake Enhanced Commissioning Tasks in conjunction with AECOM Cx	Client
EAc4	Enhanced Refrigerant Management		1	1	1	0	0	0	D	Utilize compliant refrigerants	Mechanical Engineer	N/A	No Construction Action
EAc5	Measurement and Verification		1	1	1	0	0	0	C	Develop M&V Plan for future implimentation by NASA	Commissioning Authority	Update plan to account for As-Built changes during construction	Commissioning Authority
EAc6	Green Power		1	1	1	0	0	0	C	Assess building annual electrical use through ASHRAE 90.1 analysis	Mechanical Engineer	Purchase Green Power Credits	Client
	Section Total		**17**	**17**	**13**	**4**							
Materials and Resources													
MRp1	Storage and Collection of Recyclables		Req				0	0	D	recyclable store incorporated into LEED boundary	Architect	N/A	No Construction Action
MRc1.1	Building Reuse: 75% of existing walls, floors and roof		1	0	0	0	0	0	C	Not Achievable - New Building	No Design Action	Not Achievable - New Building	No Construction Action
MRc1.2	Building Reuse: 100% of existing walls, floors and roof		1	0	0	0	0	0	C	Not Achievable - New Building	No Design Action	Not Achievable - New Building	No Construction Action
MRc1.3	Building Reuse: 50% of interior non-structural elements		1	0	0	0	0	0	C	Not Achievable - New Building	No Design Action	Not Achievable - New Building	No Construction Action
MRc2.1	Construction Waste Management: Divert 50%		1	1	1	0	0	0	C	Incorporate requirement for to divert a min of 75% within specifications	LEED consultant	Develop and Impliment construction waste mangement to divert min of 75%	Contractor
MRc2.2	Construction Waste Management: Divert 75%		1	1	1	0	0	0	C	Incorporate requirement for to divert a min of 75% within specifications	LEED consultant	Develop and Impliment construction waste mangement to divert min of 75%	Contractor
MRc3.1	Resource Reuse: 5%		1	0	0	0	0	0	C	Not Achievable - Limited opportunities to incorporate required %. (5% = $450k)	No Design Action	Not Achievable - New Building	No Construction Action
MRc3.2	Resource Reuse: 10%		1	0	0	0	0	0	C	Not Achievable - Limited opportunities to incorporate required %. (10% = $900k)	No Design Action	Not Achievable - New Building	No Construction Action
MRc4.1	Recycled Content: 10%		1	1	1	0	0	0	C	Select materials to maximize recycled content	Architect	Document the recycled content of all procured materials	Contractor
MRc4.2	Recycled Content: 20%		1	1	0	1	0	0	C	Select materials to maximize recycled content	Architect	Document the recycled content of all procured materials	Contractor
MRc5.1	Regional Materials: 10%		1	1	1	0	0	0	C	Select materials to maximize regional content	Architect	Document the regional content of all procured materials	Contractor
MRc5.2	Regional Materials: 20%		1	1	0	1	0	0	C	Select materials to maximize regional content. Challenge due to % steel	Architect	Document the regional content of all procured materials	Contractor
MRc6	Rapidly Renewable Materials		1	0	0	0	0	0	C	Not Achievable - Limited opportunities to incorporate required %. (2.5% = $225k)	No Design Action	Not Achievable - Limited opportunities to incorporate	No Design Action
MRc7	Certified Wood		1	1	1	0	0	0	C	Specify 100% of wood products to be FSC certified	Architect	Collect the FSC CoC certificates for all wood products	Contractor
	Section Total		**13**	**7**	**5**	**2**							

Credit Reference Legend

- Not Targetted
- Targetted but currently not achieved - evidence required
- Partially achieved - more evidence required to complete
- Fully evidenced and awarded

Credit Likelihood Legend

- Unlikely
- Possible
- Likely

										DESIGN PHASE		CONSTRUCTION PHASE	
Credit Reference	Credit Name	Likelihood of Credit	Available Credits	Target Credits	Solid Credits	Reach Credits	Documentated Credits	Anticipated Credits	LEED Submittal	Design Phase Action	Phase Leader	Construction Phase Action	Phase Leader
Indoor Environmental Quality													
EQp1	Minimum IAQ Performance		Req				0	0	D	Develop design to exceed ASHRAE 62.1 criteria by 30%	Mechanical Engineer	N/A	No Construction Action
EQp2	Environmental Tobacco Smoke (ETS) Control		Req				0	0	D	Allocate external smoking area and provide client letter	Architect	N/A	No Construction Action
EQc1	Outdoor Air Delivery Monitoring		1	1	1	0	0	0	D	Provide CO2 and OA monitoring within DDC system	Mechanical Engineer	N/A	No Construction Action
EQc2	Increased Ventilation		1	1	1	0	0	0	D	Develop design to exceed ASHRAE 62.1 criteria by 30%	Mechanical Engineer	N/A	No Construction Action
EQc3.1	Construction IAQ Management Plan: During Construction		1	1	1	0	0	0	C	Incorporate requirements for IAQ management into specifications	LEED consultant	Develop and impliment IAQ management plan	Contractor
EQc3.2	Construction IAQ Management Plan: Before Occupancy		1	1	1	0	0	0	C	Incorporate requirement for IAQ testing into specifications	LEED consultant	Undertake IAQ Testing	Contractor
EQc4.1	Low-Emitting Materials: Adhesives and Sealants		1	1	1	0	0	0	C	Incorporate requirements for VOC criteria into specifications	Architect	Collect MSDS sheets for all products	Contractor
EQc4.2	Low-emitting Materials: Paints and Coatings		1	1	1	0	0	0	C	Incorporate requirements for VOC criteria into specifications	Architect	Collect MSDS sheets for all products	Contractor
EQc4.3	Low-Emittoing Materials: Carpet Systems		1	1	1	0	0	0	C	Incorporate requirements for VOC criteria into specifications	Architect	Collect MSDS sheets for all products	Contractor
EQc4.4	Low-Emitting Materials: Composite Wood and Agrifiber		1	1	1	0	0	0	C	Incorporate requirements for zero use of urea formaldehyde	Architect	Collect MSDS sheets for all products	Contractor
EQc5	Indoor Chemical & Pollutant Source Control		1	1	1	0	0	0	D	Entrance matts installed. Dedicated exhaust from cleaners closets installed	Architect	N/A	No Construction Action
EQc6.1	Controllabilty of Systems: Lighting		1	1	1	0	0	0	D	Provide task lighting at individual workstations + control in offices.	Electrical Engineer	N/A	No Construction Action
EQc6.2	Controlability of Systems: Thermal Systems		1	1	1	0	0	0	D	Building complies as it incorporates openable windows.	Mechanical Engineer	N/A	No Construction Action
EQc7.1	Thermal Comfort: Design		1	1	1	0	0	0	D	Document compliance with ASHRAE 55 requirements	Mechanical Engineer	N/A	No Construction Action
EQc7.2	Thermal Comfort: Verification		1	1	1	0	0	0	C	N/A	No Design Action	Develop thermal comfort survey process to be implimented by NASA	Commissioning Authority
EQc8.1	Daylight & Views: Daylight 75% of spaces		1	1	1	0	0	0	D	L+U to provide LEED daylighting calcs	Specialist Consultant	N/A	No Construction Action
EQc8.2	Daylight & Views: Views for 90% of spaces		1	1	1	0	0	0	D	Complies thru floorplate design and openplan design.	Architect	N/A	No Construction Action
	Section Total		**15**	**14**	**14**	**0**							
Innovation & Design Process													
IDc1.1	Innovation in Design: WEc3 Exemplary Performance		1	1	1	0	0	0	D	Achieve WEc3 exemplary by achieving 40% water reduction	Mechanical Engineer	N/A	No Construction Action
IDc1.2	Innovation in Design: SSc5.2 Exemplary Performance		1	1	1	0	0	0	D	Achieve SSc5.2 exemplary by achieving twice building footprint as openspace	No Design Action	N/A	No Construction Action
IDc1.3	Innovation in Design: Sustainable Education Program		1	1	1	0	0	0	C	N/A	No Design Action	Assist client to develop Green Education program information	LEED consultant
IDc1.4	Innovation in Design: Green Cleaning Program		1	1	1	0	0	0	C	N/A	No Design Action	Impliment Green Cleaning Program	Client
IDc2	LEED Accredited Professional		1	1	1	0	0	0	C	Upload LEED AP Certificate	LEED consultant	N/A	No Construction Action
	Section Total		**4**	**4**	**4**	**0**							